

Remarks

For the Claims:

Applicants submitted claims 1-37 for examination. Claims 1-37 were subject to restriction in an action dated 8 November 2004. Applicants elected species "a", a buffing head with a restrictor, in a response filed on 2 December 2004. Per the election of species "a", claims 4-17, 19-28, and 30-37 have been withdrawn from consideration and claims 1-3, 18, and 29 remain pending in the above-identified application.

This Office Action rejects claims 1-3, 18, and 29. Applicants amend claims 1 and 29, retain claims 2-3 and 18 as originally submitted, and cancel withdrawn claims 21-28 and 33-37. Applicants respectfully request reconsideration in view of the following remarks.

This Office Action rejects claims 1-3 and 18 under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Office Action notes that claim 1 recites "a restrictor." The Office Action alleges that "a restrictor" in and of itself, provides no structure to further limit the device, and considers that the term "restrictor" may be broadly interpreted to have several meanings. Consequently, the Office Action concludes that the claim is rendered indefinite as to scope, range, or content.

Well established patent practice dictates that "a patentee can be his own lexicographer provided the patentee's definition, to the extent it differs from the conventional definition, is clearly set forth in the specification." *The Beachcombers*,

International Inc. v. WildeWood Creative Products Inc., 31 USPQ2d 1653, 1656 (Fed. Cir. 1994). It is not relevant that the term "restrictor" may be broadly interpreted to have several meanings. Rather, the Examiner cannot ignore Applicants' specification but is required to use Applicants' definition as clearly set forth in the specification.

The term "restrictor," as recited in claim 1, is well defined in Applicants' specification. In particular, Applicants define the term "restrictor" in the specification in paragraph [0034] and in paragraphs [0042] through [0045]. The term "restrictor" is utilized in Applicants' specification to describe a feature that causes the buffing element to move at a slower speed than the rotary element, as recited in independent claim 1. That is, restrictor 40 restricts movement of buffing element 38 such that buffing element 38 moves at a second speed to recondition protective surface 30, the second speed being slower than the first speed. Thus, buffing element 38 is a non-driven, moveable grinding surface, whose movement is restricted via restrictor 40. Applicants provide examples of restrictors, as described in paragraphs [0042] through [0045], whose function is to provide the appropriate amount of restriction of movement. A definition is provided herein to show that Applicants' definition of "restrictor" is consistent with the meaning of the term.

restrict: To keep or confine within limits.

Other forms: restrictor or restricter n. *The American Heritage® Dictionary of the English Language, Fourth Edition, Copyright © 2000 by Houghton Mifflin Company.*

Applicants utilize the noun form of the term "restrict", i.e., the term "restrictor", as an element of the present invention the keeps or confines the buffing element within a limit. That is, the restrictor is in communication with the buffing element for restricting movement of the buffing element

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such that the buffing element moves at a second speed that is slower than the first speed of the optical disc. Consequently, when the term "restrictor" is read in light of the specification, the term "restrictor" does not render claim 1 indefinite.

For the reasons set forth above, claim 1 is definite. Claims 2-3 and 18 depend from claim 1, and are also definite by reason of dependency. Consequently, Applicants respectfully request withdrawal of the objection to claims 1-3 and 18 under 35 U.S.C. §112, second paragraph.

This Office Action rejects claims 1-3 and 18 (as well as understood) and 29 under 35 U.S.C. 102(b) as being anticipated by Nagao et al., U.S. Patent No. 4,825,497 (hereinafter *Nagao*). The Office Action alleges that Nagao discloses a disc cleaner that includes the structural limitations, as best understood, of the originally filed claims.

Independent claims 1 and 29 have been amended to more clearly point out that which Applicants believe to be the invention. Portions of claims 1 and 29 are reproduced as follows for the Examiner's convenience:

Claim 1:

...a buffing element configured to contact said work surface so that rotation of said disc enables corresponding movement of said buffing element through said contact of said buffing element with said work surface...

Claim 29:

retaining said optical disc on said rotary element in contact with said buffing element;
rotating said optical disc at a first speed via said rotary element, rotation of said optical disc enabling corresponding movement of said buffing element through

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said contact of said buffing element with said work surface...

Thus, claims 1 and 29 are being amended to more clearly point out that rotation of the disc imparts motion on the buffing element through contact of the buffing element with the work surface of the disc. Applicants' invention of claims 1 and 29 yields a buffing head and a method for reconditioning a work surface in which a buffing element is a non-driven, moveable grinding surface, whose movement is restricted via a restrictor. Refraining from driving both the optical disc and the buffing element saves costs related to a motor and/or a transmission system that otherwise would be needed to drive the buffing element.

Regarding independent claim 1, Nagao teaches of a number of embodiments of a disc cleaner that vary significantly from the claimed buffing head. In general, Nagao teaches of a disc cleaner that includes a main casing in which to receive a disc to be cleaned. A cleaner is mounted on an inner surface of the lid. A drive mechanism, located in the main casing, is operated when the lid is closed relative to the main casing. The driving mechanism is operatively connected to another mechanism for rotating and revolving the cleaner body relative to the disc to clean the disc.

Independent claim 1 includes the limitation of the buffing head including a rotary element for rotating the optical disc at a first speed. Nagao discloses that the disc may be fixedly positioned in a stationary condition on the mounting saucer, or it may be rotated on the mounting saucer. Nagao describes approximately five embodiments of the Nagao disc cleaner. Nagao expressly teaches of at least four embodiments in which the cleaner body is rotated by a driving mechanism (see col. 9, line

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32, through col. 10, line 13 describing a first embodiment; col. 12, line 39, through col. 13, line 4, describing a second embodiment; col. 16, line 37, through col. 17, line 38 describing a third embodiment; and col. 20, lines 14-19 describing a fourth embodiment). Whereas, only a fifth embodiment shown and described in connection with FIGs. 32 and 33 provides description of means for rotating the optical disc (col. 23, line 39, through col. 24, line 4).

The passages at col. 23, line 39, through col. 24, line 4 and FIGs. 32 and 33 teach of a main body casing 301 having a mounting platform 352 rotatably supported around a central shaft 252a, and a gear 352b engraved in the outer periphery of the mounting platform 352. A driving gear 327 to be meshed with the gear 352b is rotatably supported on a driving shaft 326. An upper end of the driving gear 327, becomes an output terminal 319, and projects to the side of the mounting platform 352. The driving gear 327 is rotated with the rotation of the driving source 320 via a timing belt 330. In addition, an input gear 353 at the side of the lid 302, has an inner gear 353a engagable with the upper end of the driving gear 327, i.e., the output terminal. The input gear 353 is rotatable around a shaft 353c. A cleaning base 339 is rotatable around a shaft 354 with a tooth 358 formed in the outer peripheral surface of the base 339 meshing with the outer tooth 353b of the input gear.

In operation, when the lid is closed, the input gear 353 engages with the upper end of the driving gear 327, i.e., the output terminal. Rotation of the driving gear 327 causes the mounting platform 352, and a disc seated on the mounting platform 352, to rotate around the shaft 352a in response to rotation of the input gear 353. The cleaning base 339 rotates around the shaft 354 to wipe off the signal surface of the disc 303.

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Consequently, Nagao teaches of rotating both the disc and the buffing element, i.e. the Nagao cleaning base 339.

However, amended independent claim 1 further includes the limitation of a buffing element configured to contact the work surface of the disc so that rotation of the disc enables corresponding movement of the buffing element through contact of the buffing element with the work surface (emphasis supplied). While Nagao teaches of an embodiment in which both the disc and the buffing element rotate through meshing engagement of a complex gear system, Nagao fails to teach of a system in which rotation of the disc causes corresponding movement of the buffing element through contact of the buffing element with the disc.

In addition, Nagao also fails to teach the claim 1 limitations of a rotary element for rotating the optical disc at a first speed and a restrictor in communication with the buffing element for restricting the movement of the buffing element such that the buffing element moves at a second speed to recondition the work surface, the second speed being slower than the first speed. To allege as such amounts to a misrepresentation of what the prior art teaches.

Nagao discloses rotating both the cleaning base and the mounting platform with the disc mounted thereon in a single embodiment. However, Nagao utterly fails to teach of the cleaning base (i.e., comparable to the claimed buffing element) rotating faster than the mounting platform. Rather, just the opposite is evident in the Nagao system. Since gear teeth of the driving gear system (327 and 353) mesh on the periphery of each of the mounting platform 352 and the cleaning base 339, and since the cleaning base is significantly smaller in diameter than the mounting platform, the Nagao cleaning base (i.e., comparable to

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the claimed buffing element) rotates faster than the mounting platform holding the disc system.

As stated in W.L. Gore & Associates v. Garlock Inc., 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984):

Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration.

Nagao fails to anticipate Applicants' invention of claim 1 because Nagao fails to teach the claim 1 element of a buffing element configured to contact the work surface of the disc so that rotation of the disc enables corresponding movement of the buffing element through contact of the buffing element with the work surface. In addition, Nagao fails to teach the claim 1 elements of a rotary element for rotating the optical disc at a first speed and a restrictor in communication with the buffing element for restricting the movement of the buffing element such that the buffing element moves at a second speed to recondition the work surface, the second speed being slower than the first speed.

For the reasons set forth above, Applicants believe the invention of amended independent claim 1 is not anticipated by Nagao. Claims 2-3 and 18 depend from claim 1, and are not anticipated by Nagao by reason of dependency. In addition, Applicants believe the invention of claims 2-3 and 18 is not anticipated by Nagao for independent reasons.

Claim 2 includes the limitation of a stop for holding a center section of the optical disc with the work surface of the disc facing downward to contact the buffing element (emphasis supplied). Clearly, Nagao teaches in each and every embodiment

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that the disc cleaning member is mounted on an inner surface of the lid of the device and the mounting platform is located in the main case of the device. When the lid is closed over the main casing the disc cleaning member comes into contact with the surface of the disc seated on the mounting platform.

Consequently, by necessity in the Nagao system, the work surface of the disc must face upward to contact the disc cleaning member. Since Nagao fails to disclose this claim 2 feature, Nagao fails to anticipate Applicants' invention of claim 2.

Claim 3 includes the limitations of the buffing element including an axle and a roller mounted on the axle, the roller rotating about the axle in response to the rotation of the optical disc. Applicants define a roller for one embodiment of the invention in the specification at paragraphs [0038] through [0040] and illustrates the roller in several figures including FIGs. 2-7. In contrast, Nagao teaches in each and every embodiment that the disc cleaning member is a pad structure mounted to a cleaning base. The pad structure has a generally planar surface that comes into contact with the plane of the disc to clean it. The Nagao disc cleaning member having a pad mounted to a cleaning base is not a disclosure of Applicants' claimed axle and roller. Thus, Nagao fails to anticipate Applicants' invention of claim 3.

Claim 18 includes the limitation of the buffing head enabling a line-on-flat contact geometry between the buffing element and the optical disc. As defined in Applicants' specification at paragraph [0040], the term "line-on-flat reconditioning" refers to a one-dimensional line against a plane, i.e., the protective surface of the disc, at which buffing is taking place. Line-on-flat reconditioning is desirable because it is simpler and less costly to implement than prior art devices in which two planes (a

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buffing surface and the protective surface) must be kept precisely parallel. As discussed above in connection with claim 3, Nagao explicitly teaches of generally planar cleaning pads. Thus, the Nagao cleaning pads suffer from the problems of complexity and undesirably high cost in order to maintain the two planes (i.e., the cleaning pads and the protective surface of the disc) parallel. The Nagao cleaning pads do not yield the line-on-flat contact geometry of claim 18. Consequently, Nagao fails to anticipate Applicants' invention of claim 3.

Regarding amended independent claim 29, claim 29 is a method of reconditioning a work surface of an optical disc that includes functional limitations similar to the limitations forth in claim 1. That is, claim 29 recites the operations of retaining the optical disc on a rotary element of a buffing head in contact with the buffing element, rotating the optical disc at a first speed via the rotary element, rotation of the optical disc enabling corresponding movement of the buffing element through the contact of the buffing element with the work surface, and restricting movement of the buffing element to a second speed to recondition the work surface, the second speed being slower than the first speed.

Nagao fails to anticipate the invention of claim 29 for the reasons set forth in connection with claim 1. In particular, Nagao fails to teach the claim 29 operation of retaining the optical disc on the rotary element in contact with the buffing element so that rotation of the disc enables corresponding movement of the buffing element through contact of the buffing element with the work surface. In addition, Nagao fails to teach the claim 29 operation of restricting the movement of the buffing element such that the buffing element moves at a second speed to

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recondition the work surface, the second speed being slower than the a speed of the optical disc.

For the reasons set forth above, Applicants respectfully request withdrawal of the rejection of claims 1-3, 18, and 29 under 35 U.S.C. §102(b).

Nor is Applicants' invention of claims 1-3, 18, and 29 rendered obvious in view of Nagao. Nagao teaches of a complex gear system for rotating the cleaning base and, optionally, for rotating the mounting platform holding the disc. Applicants teach in the Background of the Invention section of the specification at paragraph [0008] of problems associated with disc cleaning systems, such as that taught by Nagao. In particular, reconditioning devices that use complicated transmission systems to drive both the buffing element and the optical disc are undesirably costly and have a higher probability of component failure due to the complexity of the equipment.

Applicants' invention of claims 1-3 and 18 solves the problems associated with these complex devices, such as the Nagao disc cleaner, by providing a buffing head having a non-driven, rotatable buffing element, the buffing element moving in response to rotation of the optical disc through contact of the buffing element with the work surface of the disc. Such a technique significantly reduces the complexity of the rotary element relative to the gearing and transmission systems of prior art devices. Consequently, the buffing head may be employed in a simple and affordable reconditioning device thereby overcoming the problems of prior art devices, such as that taught by Nagao, that are undesirably costly and have a higher probability of component failure due to the complexity of the equipment. In addition, the buffing head of claim 1 is readily expandable

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between cost effective consumer applications, higher end consumer applications, and high throughput commercial/industrial applications.

The non-driven, rotatable buffing element is equipped with a restrictor so that it moves at a controlled speed that is slower than the optical disc. Only Applicants teach that because the buffing element moves in response to rotation of the disc due to the contact between the disc and the buffing element, if the speed of buffing element is left unrestricted, the buffing element would soon be moving as rapidly as the optical disc. Such a situation leads to highly ineffective buffing of the disc. Consequently, Applicants solve this problem utilizing a restrictor to restrict the speed of the buffing element. This ability to control the speed of movement of the buffing element is important to fast and effective buffing.

Nagao fails to recognize this problem since the disc is stationary in most embodiments of the Nagao. Moreover, in only one embodiment, rotation of the disc on the mounting platform and the cleaning base is interrelated via the gear teeth. As such, a restrictor in communication with the Nagao cleaning base cannot cause the cleaning base to rotate at a speed slower than the speed of the disc. That is, since the rotational speed of the cleaning base and the disc are inexorably linked through the gear system, if the speed of the cleaning base is somehow slowed down, the speed of the disc will also slow down. Hence, the disc will always rotate slower than the cleaning base.

Nor is it obvious to modify the Nagao system to more closely resemble Applicant's invention of claim 1. As stated in National Tractor Pullers Assn., Inc. v Watkins, 205 USPQ 892, 911 (D.C. N.D. Ill. E. Div. 1980):

A modification of a prior art patent or device which would render that device unworkable for its intended purposes cannot be said to suggest such a modification.

Since the cleaning base and the disc are linked through the gear system, any attempt to decouple the gear system that controls the rotational speed of the cleaning base and the disc would render Nagao unworkable for its intended purpose of driving the cleaning base and the disc mounted platform via a common driving gear 327. Consequently, Nagao fails to provide any suggestion for such a modification.

In addition, Nagao fails to provide any suggestion for modifying the Nagao disc cleaner to more closely resemble Applicants' invention of claim 2 in which the rotary element comprises a stop for holding a center section of the optical disc with the work surface of the disc facing downward to contact the buffing disc. Again, Nagao fails to provide any suggestion because Nagao would be rendered unworkable for its intended purpose. An express purpose of the Nagao disc cleaner is to provide the cleaning base and pad in the lid of the device, which when closed, places the pad in contact with a disc whose work surface is facing upward. Nagao teaches that such a configuration is useful for improving the safety of the system so that the cleaning member is not rotated before the lid is closed, and for enabling visibility of the cleaning surface to confirm the cleaning condition on the signal surface during cleaning. Consequently, Nagao fails to provide any suggestion for a modification that would result in the signal surface of the disc facing downward, and indeed teaches away from such a modification.

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Regarding independent claim 29, since claim 29 recites methodology corresponding to the limitations of amended independent claim 1, *Nagao* also fails to render obvious the invention of claim 29 for the reasons set forth above. Consequently, Applicants believe claims 1-3, 18, and 29 are neither anticipated by nor rendered obvious in view of *Nagao*. Hence, claims 1-3, 18, and 29 are believed allowable.

Withdrawn claims 4-20 depend directly or indirectly from independent claim 1. Similarly, withdrawn claims 30-32 depend from independent claim 29. Consequently, should claims 1 and 29 be held allowable, Applicants respectfully request consideration of withdrawn dependent claims 4-20 and 30-32. However, this amendment cancels claims 21-28 and 33-37. As such, claims 21-28 and 33-37 are no longer under consideration.

Accordingly, this Amendment amends claims 1 and 29 and cancels claims 21-28 and 33-37. Currently amended claims 1 and 29 remain in the application and are believed to be allowable. In addition, claims 2-3 and 18 remain in the application as originally submitted and are believed to be allowable.

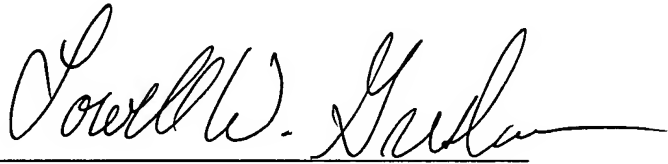
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Applicants believe that the foregoing amendments and remarks are fully responsive to the rejections and/or objections recited in the 11 February 2005 Office Action and that the present application is now in a condition for allowance. Accordingly, reconsideration of the present application is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Lowell W. Gresham', is written over a horizontal line.

Lowell W. Gresham
Attorney for Applicants
Reg. No. 31,165

Lowell W. Gresham
5727 North Seventh Street
Suite 409
Phoenix, AZ 85014
(602) 274-6996